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United States Patent [19]

Baley

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[54] METHOD AND APPARATUS FOR RECONDITIONING AND RESEALING A TONER CARTRIDGE

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 83,348, Jun. 28, 1993, Pat. No. 5,407,518, which is a continuation-in-part of Ser. No. 825,850, Jan. 27, 1992, Pat. No. 5,223,068.

[51] Int. Cl.[6] B32B 31/00

[52] U.S. Cl. 156/344; 156/94; 156/250; 355/260; 141/364; 222/DIG. 1

[58] Field of Search 156/94, 250, 257, 156/344, 510, 584; 83/703, 704, 869, 876, 885; 29/402.02, 402.03; 264/36; 355/245, 260; 141/18, 364; 222/DIG. 1

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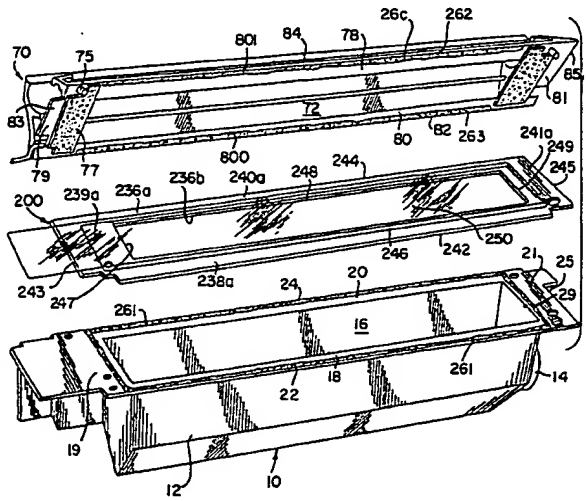
[57] ABSTRACT

The present invention is a method and apparatus for reconditioning and resealing toner cartridges.

The method generally comprises the following steps: a) providing a used toner cartridge having a hopper, a mounting member and spacers interposed therebetween, b) separating the toner hopper and mounting member by cutting the spacers, and c) securing a new seal assembly between said toner hopper and mounting member to seal the toner discharge opening. The invention includes a device for separating a toner hopper from a mounting member so that the cartridge can be reliably resealed and refilled with toner for repeated use. A container holds the cartridge while leaving the outer edge of each of the spacers exposed. In one embodiment, the container is provided with wheels that travel in a track. The container moves linearly along the track past a blade that cuts through the outer edge of the spacers. In a second embodiment, the container is positioned on a rail aligned to pass between two spaced-apart blades. The rail is mounted on a linear bearing so that the rail moves linearly past the blades to cut through both of the outer edges of the spacers in a single pass. This allows the hopper to be separated from the mounting member. Finally, a vacuum system is provided for removing waste debris.

14 Claims, 11 Drawing Sheets



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TITLE: Method and apparatus for reconditioning and resealing a toner cartridge

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Abstract Text - ABTX (2):

The method generally comprises the following steps: a) providing a **used toner cartridge** having a hopper, a mounting member and spacers interposed therebetween, b) separating the toner hopper and mounting member by cutting the
spacers, and c) securing a new seal assembly between said toner hopper and mounting member to seal the toner discharge opening. The invention includes a device for separating a toner hopper from a mounting member so that the cartridge can be reliably resealed and refilled with toner for repeated use. A container holds the cartridge while leaving the outer edge of each of the spacers exposed. In one embodiment, the container is provided with wheels that travel in a track. The container moves linearly along the track past a blade that cuts through the outer edge of the spacers. In a second embodiment, the container is positioned on a rail aligned to pass between two spaced-apart blades. The rail is mounted on a linear bearing so that the rail moves linearly past the blades to cut through both of the outer edges of the spacers in a single pass. This allows the hopper to be separated from the mounting member. Finally, a vacuum system is provided for removing waste debris.